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ABSTRACT

A voice coding apparatus which can obtain preferable sound quality at a low bit rate is provided. In a mode decision  
5 circuit 800 of the voice coding apparatus, a mode is decided from an input voice signal by using a characteristic amount every sub-frame. In a sound source quantization circuit 350, in case of a predetermined mode, the amplitude or polarity of a non-zero pulse is calculated in advance. Further, combinations  
10 of a plurality of shift amounts by which the position of a predetermined pulse is time-shifted and a gain code vector for quantizing a gain are searched. Finally, the combination which minimizes distortion between a reproduced voice and an input voice is selected.